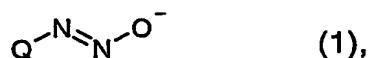


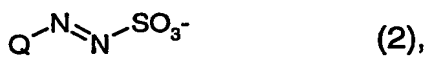
Claims

1. A method of colouring porous material, which comprises applying to the material being coloured, in any desired order successively, or simultaneously,

a) at least one capped diazonium of formula (1)



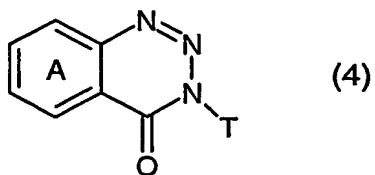
and/or at least one capped diazonium of formula (2)



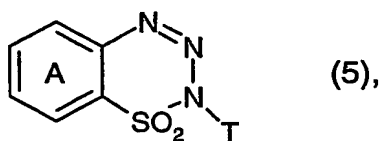
and/or at least one capped diazonium of formula (3)



and/or at least one capped diazonium of formula (4)



and/or at least one capped diazonium of formula (5)



wherein

Q is an unsubstituted or substituted aromatic or heterocyclic residue,

R is the radical of an unsubstituted or substituted, water-soluble aliphatic or aromatic amine,

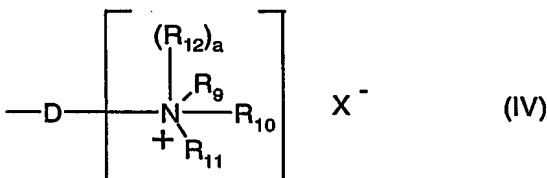
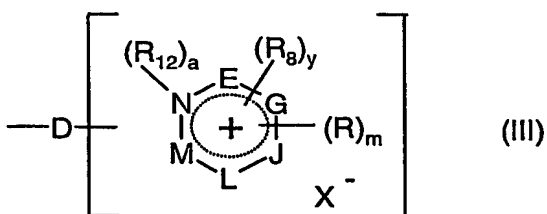
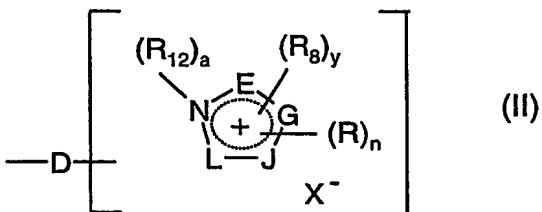
and

T is an unsubstituted or substituted, water-soluble aliphatic or aromatic residue,

wherein at least one of the groups must contain a radical imparting water solubility,

and

b) at least one cationic water-soluble aromatic coupling component, which comprises at least one radical Z of formula (II), (III) and/or (IV)



in which

D is a linker arm which represents a linear or branched alkyl chain preferably containing from 1 to 14 carbon atoms, which may be interrupted by one or more hetero atoms such as oxygen, sulphur or nitrogen atoms, and which may be substituted with one or more hydroxyl or C₁-C₆alkoxy radicals, and optionally bearing one or more carbonyl groups;

E, G, J, L and **M** which may be identical or different represent a carbon atom, a oxygen atom, a sulfur atom or a nitrogen atom;

n is 0, 1, 2, 3 or 4;

m is 0, 1, 2, 3, 4 or 5;

each **R** which may be identical or different, represents a second group Z which is the same or different from the first Z group; a halogen atom; a hydroxyl atom; a C₁-C₆-alkyl radical; a C₁-C₆monohydroxyalkyl radical; a C₂-C₆polyhydroxyalkyl radical; a nitro radical; a cyano radical; a cyano(C₁-C₆)alkyl radical; a (C₁-C₆)alkoxy radical; a tri(C₁-C₆)alkylsilane(C₁-C₆)alkyl radical; an amido radical; an aldehydo radical; a carboxyl radical; a carboxyl radical, a (C₁-C₆)alkylcarbonyl radical, a thio radical, a C₁-C₆thioalkyl radical, a (C₁-C₆)alkylthio radical, an amino radical, an amino radical protected with a (C₁-C₆)alkylcarbonyl, carbamyl or (C₁-C₆)alkylsulphonyl radical; a NHR' or NR'R'' group,

wherein **R'** and **R''** represent independently from each other a C₁-C₆alkyl radical; a C₁-C₆monohydroxyalkyl radical or a C₂-C₆polyhydroxyalkyl radical;

R₈ represents a C₁-C₆alkyl radical; a C₁-C₆monohydroxyalkyl radical; a C₂-C₆polyhydroxyalkyl radical; a cyano(C₁-C₆)alkyl radical; a tri(C₁-C₆)alkylsilane(C₁-C₆)alkyl radical; a (C₁-C₆)alkoxy-carboxy(C₁-C₆)alkyl radical; a (C₁-C₆)alkyl-carboxy(C₁-C₆)-alkyl radical; (C₁-C₆)alkylcarbonyl radical; benzyl radical or a second group Z, which is the same as the first Z group or different from the first Z group;

R₉, R₁₀ and R₁₁, which may be identical or different, represent a C₁-C₆alkyl radical; a C₁-C₆monohydroxyalkyl radical; a C₂-C₆polyhydroxyalkyl radical; a (C₁-C₆)alkoxy-(C₁-C₆)alkyl radical; a cyano(C₁-C₆)alkyl radical; an aryl radical; a benzyl radical; an amido(C₁-C₆)alkyl radical; a tri(C₁-C₆)alkylsilane(C₁-C₆)alkyl radical or a C₁-C₆amino-alkyl radical in which the amine is protected with a (C₁-C₆)alkylcarbonyl, carbamyl or (C₁-C₆)alkylsulphonyl radical;

two of the radicals **R₉, R₁₀ and R₁₁** can also form, together with the nitrogen atom to which they are attached, a 5- or 6-membered saturated carbon-based ring or a ring containing one or more hetero atoms such as, for example, a pyrrolidone ring, a piperidine ring, a piperazine ring or a morpholine ring, it being possible for the said ring to be unsubstituted or substituted with one or more substituents selected from the group consisting of a halogen atom, a hydroxyl radical, a C₁-C₆alkyl radical, a C₁-C₆monohydroxyalkyl radical, a C₂-C₆polyhydroxyalkyl radical, a nitro radical, a cyano radical, a cyano(C₁-C₆)alkyl radical, a C₁-C₆alkoxy radical, a tri(C₁-C₆)alkyl-silane(C₁-C₆)alkyl radical, an amido radical, an aldehydo radical, a carboxyl radical, a (C₁-C₆)alkylcarbonyl radical, (C₁-C₆)cetoalkyl; a thio radical, a C₁-C₆thioalkyl radical, a (C₁-C₆)alkylthio radical, an amino radical, an amino radical protected with a (C₁-C₆)-alkylcarbonyl, carbamyl or (C₁-C₆)alkylsulphonyl radical; or

one of the radicals **R₇, R₈ and R₉** can also represent a second radical Z, which is identical or different from the first Z group;

R₁₂ represents a C₁-C₆alkyl radical; a C₁-C₆monohydroxyalkyl radical; a C₂-C₆polyhydroxyalkyl radical; an aryl radical; a benzyl radical; a (C₁-C₆)alkylamine radical; a (C₁-C₆)alkylamine radical protected with a (C₁-C₆)alkylcarbonyl, carbamyl or (C₁-C₆)-alkylsulphonyl radical; a (C₁-C₆)alkylcarbonyl radical; a cyano(C₁-C₆)alkyl radical; a carbamyl(C₁-C₆)alkyl radical; a C₁-C₆trifluoroalkyl radical; a tri(C₁-C₆)alkylsilane-(C₁-C₆)alkyl radical; a C₁-C₆aminosulphonylalkyl radical; a (C₁-C₆)alkylcarbonyl-(C₁-C₆)alkyl radical; a (C₁-C₆)alkylsulphonyl(C₁-C₆)alkyl radical; a (C₁-C₆)alkyl-sulphonyl(C₁-C₆)alkyl radical; a (C₁-C₆)alkyl-ceto-(C₁-C₆)alkyl; an N-(C₁-C₆)alkyl-aminosulphonyl(C₁-C₆)alkyl radical or a N-(C₁-C₆)alkylaminosulphonyl(C₁-C₆)alkyl radical;

a and **y** are independently from each other 0 or 1 with the provisos that

(i) in unsaturated cationic groups of formula (II)

- 116 -

- when $a=0$ then D is attached to the nitrogen atom,
- when $a=1$ then D is attached to summits E, G, J or L,
- y can only be 1
 3. when E, G, J and L are each carbon and R_8 is attached to the nitrogen atom of the unsaturated cycle; or
 4. when at least one of E, G, J and L is nitrogen to which R_8 is attached
- when n is at least 2, two adjacent R may form unsaturated carboxylic or heterocyclic group, with 5 or 6 chains

(ii) in unsaturated cationic groups of formula (III),

- when $a=0$, then D is attached to the nitrogen atom,
- when $a=1$, then D is attached to summits E, G, J, L or M,
- y can only be 1 when at least one of E, G, J, L and M represents a divalent atom and R_8 is attached to the nitrogen atom of the unsaturated cycle,
- when m is at least 2, then two of adjacent R may form unsaturated carboxylic or heterocyclic group, with 5 or 6 chains,

(iii) in cationic groups of formula (IV)

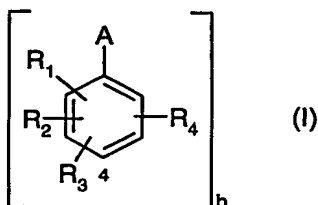
- when $a=0$ then D is attached to the nitrogen atom bearing radicals $R_9 - R_{11}$,
- when $a=1$ then two of the radicals $R_9 - R_{11}$ form a saturated heterocycle with 5 – 6 chains as defined before, with the nitrogen atom to which they are attached and D is linked to the carbon atom of this saturated cycle,

X^- represents a monovalent or divalent anion, preferably selected from chloride, bromide, fluoride or iodide, hydroxide ions, hydrosulfate or (C_1 - C_6 alkyl)sulfate, such as methyl- or ethyl-sulfate,

wherein the number of Z groups in the formula (I) is at least 1,

under conditions such that, initially, coupling does not take place, and then causing the capped diazonium compound present on the material to react with the coupling component.

2. A method according to claim 1, wherein the cationic water-soluble aromatic coupling component is a compound of formula (I)



in which

b is 1 or 2 and

for **b** equal 2, two benzene rings are linked by link **B** representing a group **Z**, or linear or branched C₁-C₁₄alkyl chain which can be interrupted by one or more groups **Z** and/or by one or more heteroatoms chosen from O, S and N, can be substituted with one or more hydroxyl or C₁-C₆alkoxy radicals and can bear on or more carbonyl groups;

R₁, **R₂**, **R₃** and **R₄**, which may be identical or different, represent a hydrogen atom; a halogen atom; a group **Z**; a group -N-**Z**; a group -N-**Z**; a group -O-**Z**; a group -CO-**Z**; a group -COO**Z**; a group -CO-N-**Z**; a group -CO-N-**Z**; a group N-CO-**Z**; a group -N-CO-N-; a (C₁-C₆)alkylcarbonyl radical; an amino(C₁-C₆)alkylcarbonyl radical; an -N-**Z**-amino(C₁-C₆)alkylcarbonyl radical; an N-(C₁-C₆)alkylamino(C₁-C₆)alkylcarbonyl radical; an N,N-di(C₁-C₆)alkylamino(C₁-C₆)alkylcarbonyl radical; an amino(C₁-C₆)alkylcarbonyl(C₁-C₆)alkyl radical; an N-**Z**-amino(C₁-C₆)alkylcarbonyl(C₁-C₆)alkyl radical; an N-(C₁-C₆)alkyl-amino(C₁-C₆)alkylcarbonyl(C₁-C₆)alkyl radical; an N,N-di(C₁-C₆)alkylamino(C₁-C₆)alkylcarbonyl(C₁-C₆)alkyl radical; a carboxyl radical; a (C₁-C₆)alkylcarboxyl radical; a C₁-C₆alkylsulphonyl radical; an aminosulphonyl radical; an N-**Z**-aminosulphonyl radical; a C₁-C₆-N-alkylaminosulphonyl radical; an N,N-di(C₁-C₆)alkylamino-sulphonyl radical; a C₁-C₆aminosulphonylalkyl radical; a C₁-C₆ N-**Z**-aminosulphonylalkyl radical; an N-(C₁-C₆)alkylaminosulphonyl(C₁-C₆)alkyl radical; an N,N-di(C₁-C₆)alkylamino-sulphonyl(C₁-C₆)alkyl radical; a carbamyl radical; an N-(C₁-C₆)alkylcarbamyl radical; an N,N-di(C₁-C₆)alkylcarbamyl radical; a carbamyl(C₁-C₆)alkyl radical; an N-(C₁-C₆)alkylcarbamyl-(C₁-C₆)alkyl radical; an N,N-di(C₁-C₆)alkylcarbamyl-(C₁-C₆)alkyl radical; a C₁-C₆alkyl radical; a hydroxyl radical; nitro radical; a C₁-C₆mono-hydroxyalkyl radical; a C₂-C₆polyhydroxyalkyl radical; a (C₁-C₆)alkoxy(C₁-C₆)alkyl radical; a C₁-C₆trifluoroalkyl radical; a cyano radical; a group OR₇ or SR₇; an unsubstituted amino group; an amino group substituted with one or two of the substituents selected from the group consisting of C₁-C₆alkyl, (C₁-C₆)alkylcarbonyl, (C₁-C₆)alkyl-carboxyl, trifluoro(C₁-C₆)alkyl-carboxyl, amino(C₁-C₆)alkylcarbonyl, N-**Z**-amino(C₁-C₆)alkylcarbonyl, N-(C₁-C₆)-alkylamino(C₁-C₆)alkylcarbonyl, N,N-di (C₁-C₆)alkylamino-(C₁-C₆)alkylcarbonyl, (C₁-C₆)alkylcarboxyl, carbamyl, N-(C₁-C₆)alkylcarbamyl, N,N-di(C₁-C₆)alkyl-

carbamyl, C₁-C₆ alkylsulphonyl, aminosulphonyl, N-Z-aminosulphonyl, N-(C₁-C₆)-alkylaminosulphonyl, N,N-di(C₁-C₆)-alkylaminosulphonyl, thiocarbamyl, formyl radical or a group -Z;

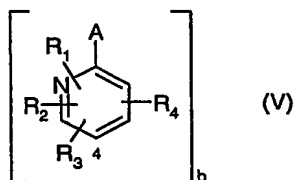
or R₁, R₂, R₃ and R₄, when they are adjacent, may form, two by two, an unsaturated cycle with 5 – 6 carbon chains, or containing one or more heteroatoms and optionally bearing same substituents as given above for R₁, R₂, R₃ and R₄;

R₇ denotes a C₁-C₆alkyl radical; a C₁-C₆monohydroxyalkyl radical; a C₂-C₆poly-hydroxyalkyl radical; a group Z; a (C₁-C₆)alkoxy(C₁-C₆)alkyl radical; an aryl radical; a benzyl radical; a carboxy(C₁-C₆)alkyl radical; a (C₁-C₆)alkylcarboxy(C₁-C₆)alkyl radical; a cyano(C₁-C₆)alkyl radical; a carbamyl(C₁-C₆)alkyl radical; an N-(C₁-C₆)alkyl-carbamyl(C₁-C₆)alkyl radical; an N,N-di(C₁-C₆)alkylcarbamyl(C₁-C₆)alkyl radical; a C₁-C₆trifluoroalkyl radical; a C₁-C₆aminosulphonylalkyl radical; a C₁-C₆ N-Z-amino-sulphonylalkyl radical; an N-(C₁-C₆)alkylaminosulphonyl(C₁-C₆)alkyl radical; an N,N-di(C₁-C₆)alkylaminosulphonyl(C₁-C₆)alkyl radical; a (C₁-C₆)alkylsulphanyl(C₁-C₆)alkyl radical; a (C₁-C₆)alkylsulphonyl(C₁-C₆)alkyl radical; a (C₁-C₆)alkylcarbonyl(C₁-C₆)alkyl radical; a C₁-C₆aminoalkyl radical; a C₁-C₆aminoalkyl radical in which the amine is substituted with one or two identical or different radicals chosen from C₁-C₆ alkyl, C₁-C₆monohydroxyalkyl, C₂-C₆polyhydroxyalkyl, (C₁-C₆)alkylcarbonyl, formyl, trifluoro-(C₁-C₆)alkylcarbonyl, (C₁-C₆)alkylcarboxyl, carbamyl, N-(C₁-C₆)alkylcarbamyl, N,N-di-(C₁-C₆)alkylcarbamyl, thiocarbamyl and C₁-C₆alkylsulphonyl radicals, and from the groups Z, -CO-Z and -CO-OZ;

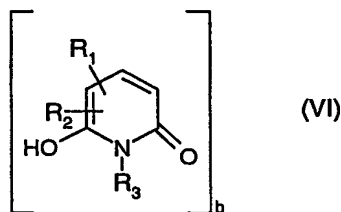
A represents a hydroxyl radical; -NR₅R₆ or OR₇;

R₅ and R₆, which may be identical or different, represent a hydrogen atom; a group Z; a C₁-C₆alkyl radical; a C₁-C₆monohydroxyalkyl radical; a C₂-C₆polyhydroxyalkyl radical; a (C₁-C₆)alkoxy(C₁-C₆)alkyl radical; an aryl radical; a benzyl radical; a cyano(C₁-C₆)alkyl radical; a carbamyl(C₁-C₆)alkyl radical; an N-(C₁-C₆)alkylcarbamyl(C₁-C₆)alkyl radical; an N,N-di(C₁-C₆)alkylcarbamyl(C₁-C₆)alkyl radical; a thiocarbamyl(C₁-C₆)alkyl radical; a C₁-C₆trifluoroalkyl radical; a C₁-C₆sulphoalkyl radical; a (C₁-C₆)alkylcarboxy(C₁-C₆)alkyl radical; a (C₁-C₆)alkylsulphanyl(C₁-C₆)alkyl radical; a C₁-C₆aminosulphonylalkyl radical; a N-Z-amino-sulphonyl(C₁-C₆)alkyl radical; an N-(C₁-C₆)alkylaminosulphonyl(C₁-C₆)alkyl radical; an N,N-di(C₁-C₆)alkylaminosulphonyl(C₁-C₆)alkyl radical; a (C₁-C₆)alkylcarbonyl- (C₁-C₆)alkyl radical; a C₁-C₆aminoalkyl radical; a C₁-C₆aminoalkyl radical in which the amine is substituted with one or two identical or different radicals chosen from C₁-C₆-alkyl, C₁-C₆monohydroxyalkyl, C₂-C₆polyhydroxyalkyl, (C₁-C₆)alkylcarbonyl, carbamyl, N-(C₁-C₆)alkylcarbamyl or N,N-di(C₁-

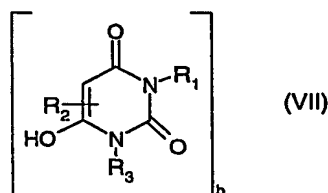
C₆)alkylcarbamyl, C₁-C₆alkyl-sulphonyl, formyl, trifluoro(C₁-C₆)alkylcarbonyl, (C₁-C₆)alkylcarboxyl and thiocarbamyl radicals, or with a group Z, -CO-Z or -CO-OZ;
 one and only one of the radicals R₅ and R₆ can also represent a (C₁-C₆)alkylcarboxyl radical;
 a (C₁-C₆)alkylcarbonyl radical; a formyl radical; a trifluoro(C₁-C₆)alkylcarbonyl radical; an amino(C₁-C₆)alkylcarbonyl radical; an N-Z-amino-(C₁-C₆)alkylcarbonyl radical; an N-(C₁-C₆)alkylamino(C₁-C₆)alkylcarbonyl radical; an N,N-di(C₁-C₆)alkyl-amino(C₁-C₆)alkylcarbonyl radical; a carbamyl radical; an N-(C₁-C₆)alkylcarbamyl radical; an N,N-di(C₁-C₆)alkylcarbamyl radical; a thiocarbamyl radical; an amino-sulphonyl radical; an N-Z-aminosulphonyl radical; an N-(C₁-C₆)alkylaminosulphonyl radical; an N,N-di(C₁-C₆)alkylamino-sulphonyl radical; or a (C₁-C₆)alkylsulphonyl radical;
 and/or a compound of formula (V)



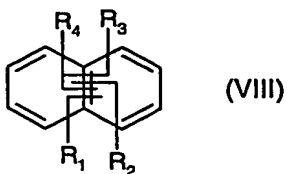
in which all substituents have the meanings as defined above,
 and/or a compound of formula (VI)



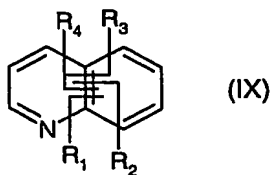
in which all substituents have the meanings as defined above,
 and/or a compound of formula (VII)



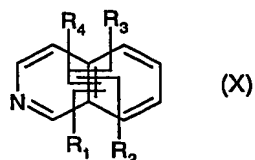
in which all substituents have the meanings as defined above,
 and/or a compound of formula (VIII)



in which all substituents have the meanings as defined above,
and/or a compound of formula (IX)

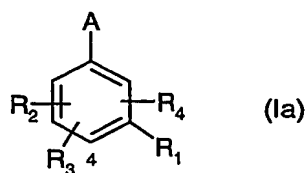


in which all substituents have the meanings as defined above,
and/or a compound of formula (X)



in which all substituents have the meanings as defined above,
Z represents one of the groups of formula (II), (III) and (IV) as defined in Claim 1
wherein the number of Z groups in the formula (I), (V), (VI), (VII), (VIII), (IX) and/or (X) is at least 1.

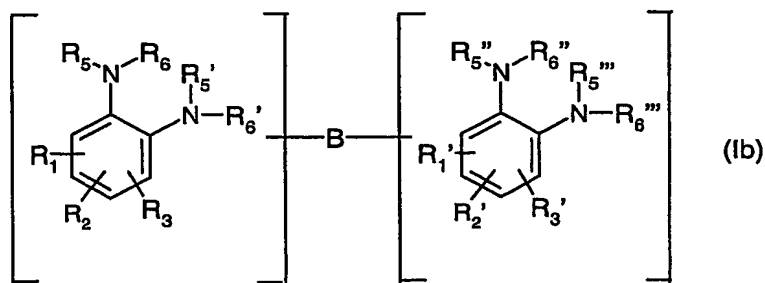
3. A method according to claim 1 or 2, wherein the cationic water-soluble aromatic coupling component is a compound of formula (Ia)



wherein

A, R₁, R₂, R₃ and R₄ have the same meanings as defined in Claim 2.

4. A method according to claim 1 or 2, wherein the cationic water-soluble aromatic coupling component is a compound of formula (Ib)



wherein

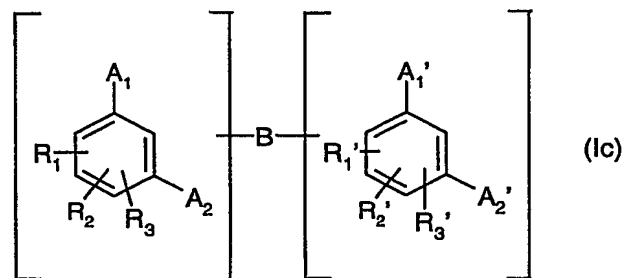
R_1 and R_1' are each one valency of B,

R_2, R_3, R_2' and R_3' have the meanings as defined for $R_1 - R_4$ in Claim 2,

$R_5, R_6, R_5', R_6', R_5'', R_6'', R_5'''$ and R_6''' have the meanings as defined for R_5 and R_6 in Claim 2, and

B and Z have the same meanings as defined in the definition of formula (I) in Claim 2.

5. A method according to claim 1 or 2, wherein the cationic water-soluble aromatic coupling component is a compound of formula (Ic)



wherein

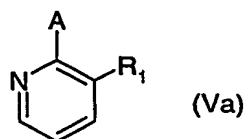
A_1, A_2, A_1' and A_2' signify independently of each other a hydroxy radical or a NR_5R_6 radical, wherein R_5 and R_6 have the same meanings as defined in the definition of formula (I) in Claim 2,

R_1 and R_1' are each one valency of B,

R_2, R_3, R_2' and R_3' have the meanings as defined for $R_1 - R_4$ in the definition of formula (I) in Claim 2, and

B and Z have the same meanings as defined in the definition of formula (I).

6. A method according to claim 1 or 2, wherein the cationic water-soluble aromatic coupling component is a compound of formula (Va)

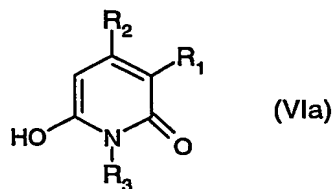


wherein

R₁ has the meanings as defined for R₁ – R₄ in the definition of formula (I) in Claim 2 and

A has the meanings as defined for A in the definition of formula (I) in Claim 2.

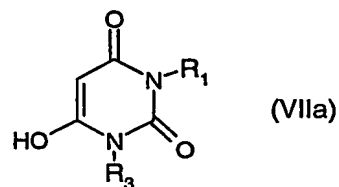
7. A method according to claim 1 or 2, wherein the cationic water-soluble aromatic coupling component is a compound of formula (VIa)



wherein

R₁, R₂ and R₃ have the meanings as defined for R₁ – R₄ in the definition of formula (I) in Claim 2.

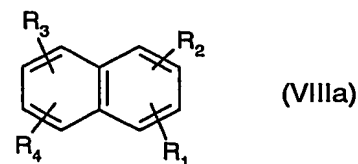
8. A method according to claim 1 or 2, wherein the cationic water-soluble aromatic coupling component is a compound of formula (VIIa)



wherein

R₁ and R₃ have the meanings as defined for R₁ – R₄ in the definition of formula (I) in Claim 2.

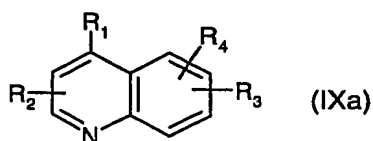
9. A method according to claim 1 or 2, wherein the cationic water-soluble aromatic coupling component is a compound of formula (VIIIa)



wherein

R_1 , R_2 , R_3 and R_4 have the meanings as defined for $R_1 - R_4$ in the definition of formula (I) in Claim 2.

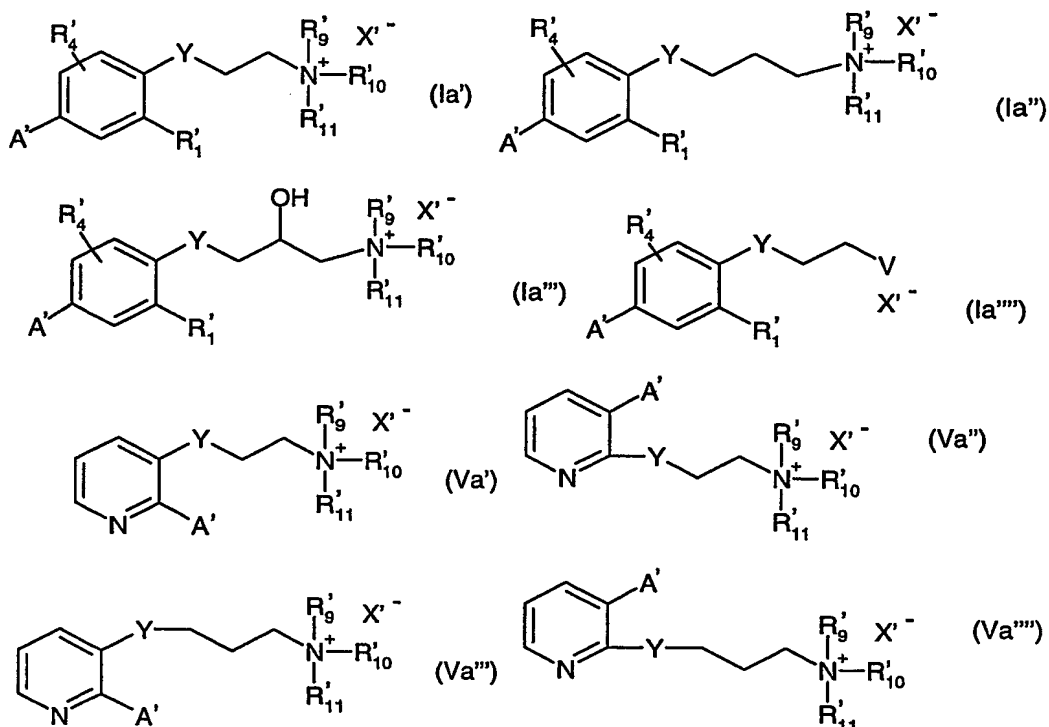
10. A method according to claim 1 or 2, wherein the cationic water-soluble aromatic coupling component is a compound of formula (IXa)

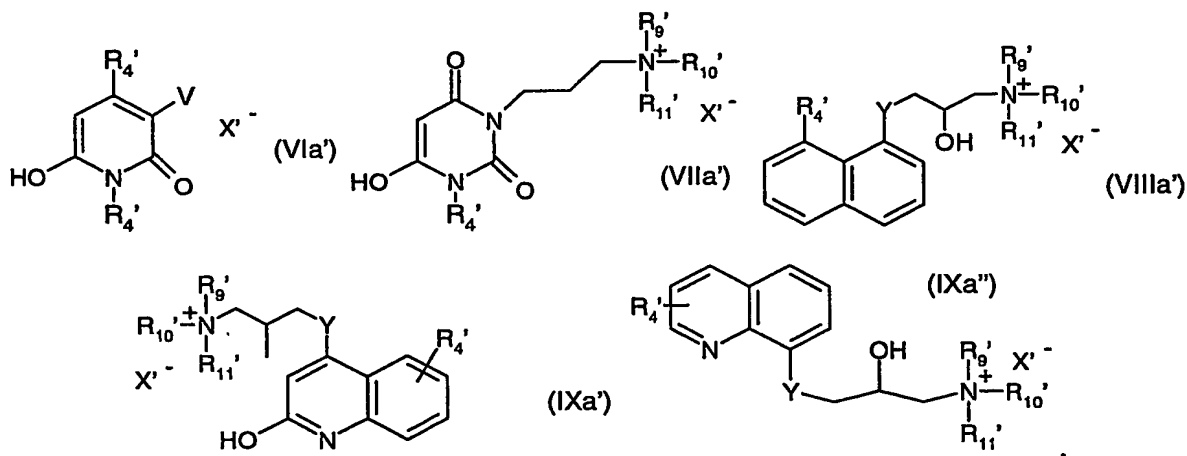


wherein

R_1 , R_2 , R_3 and R_4 have the meanings as defined for $R_1 - R_4$ in the definition of formula (I) in Claim 2.

11. A method according to claim 1 or 2, wherein the cationic water-soluble aromatic coupling component is a compound of formula (Ia'), (Ia''), (Ia'''), (Ia'''), (Va'), (Va''), (Va'''), (Va'''), (VIa'), (VIIa'), (VIIa''), (VIIIa'), (IXa') and (IXa'')





wherein

A' and R₁' signify independently from each other H; OH; NH₂; NHC₁₋₄alkyl; N(C₁₋₄)₂alkyl; OC₁₋₄alkyl, wherein the two alkyl groups of the di-alkylated amine can be the same or different,

each R₄' signifies independently from each other H; C₁₋₄alkyl, preferably CH₃; OC₁₋₄alkyl, preferably OCH₃ or halogen, preferably Cl; or a (CH₂)₀₋₂-C₆cycloalkyl or (CH₂)₀₋₂-phenyl,

R₉', R₁₀', R₁₁' signify independently from each other C₁₋₄alkyl, wherein the alkyl can be linear, branched and optionally substituted by OH, CN, Cl, COOH, SO₃H, NH₂, NHCH₃, N(CH₃)₂, OCH₃ or OC₂H₅,

X⁻ signify Cl⁻; Br⁻ or J⁻,

Y signifies -O-; -NH-; -N(C₁₋₂alkyl)-; -CONH-; -NHCO- -CON(C₁₋₄alkyl)-; -N(C₁₋₄alkyl)CO- or -CH₂-,

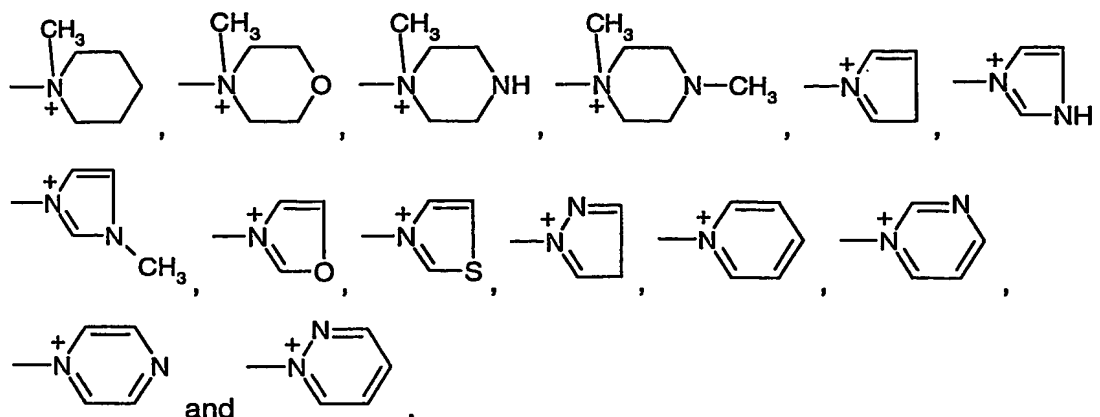
V signifies a 5, 6, or 7 membered heteroring

which can be aliphatic or aromatic, and

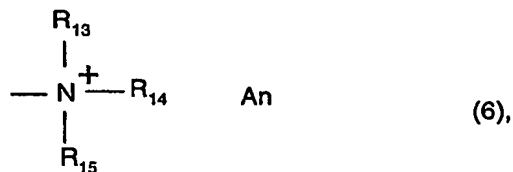
which contain at least one heteroatom selected from the group S, O and/or N,

and which contains a positive charge,

preferably V is a ring selected from the group consisting of



12. A method according to any of the preceding claims, wherein the water-soluble radical of the capped diazonium compound (1), (2), (3), (4) or (5) is SO_3H , COOH , OH or a quaternised ammonium radical of formula (6)



wherein R_{13} , R_{14} and R_{15} are each independently of the others unsubstituted or substituted alkyl and An is an anion.

13. A method according to any of the preceding claims, wherein Q is an unsubstituted or substituted phenyl, naphthyl, thiophenyl, 1,3-thiazolyl, 1,2-thiazolyl, 1,3-benzothiazolyl, 2,3-benzothiazolyl, imidazolyl, 1,3,4-thiadiazolyl, 1,3,5-thiadiazolyl, 1,3,4-triazolyl, pyrazolyl, benzimidazolyl, benzopyrazolyl, pyridinyl, quinolinyl, pyrimidinyl and isoxazolyl, aminodiphenyl, aminodiphenylether or azobenzenyl.

14. A method according to claim 13, wherein the radical Q is mono- or polysubstituted by $\text{C}_1\text{--C}_4$ alkyl, $\text{C}_1\text{--C}_4$ alkoxy, $\text{C}_1\text{--C}_4$ alkylthio, halogen, e.g. fluorine, bromine or chlorine, nitro, trifluoromethyl, CN, SCN, $\text{C}_1\text{--C}_4$ alkylsulfonyl, phenylsulfonyl, benzylsulfonyl, di- $\text{C}_1\text{--C}_4$ alkylaminosulfonyl, $\text{C}_1\text{--C}_4$ alkylcarbonylamino, $\text{C}_1\text{--C}_4$ alkoxysulfonyl or by di-(hydroxy- $\text{C}_1\text{--C}_4$ alkyl)-aminosulfonyl.

15. A method according to any one of claims 1 to 14, wherein R is a radical of formula $\text{---NR}_{16}\text{R}_{17}$, wherein R_{16} is H; unsubstituted linear or branched $\text{C}_1\text{--C}_6$ alkyl or linear or branched

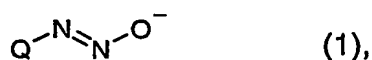
C₁-C₆alkyl, which is substituted by one or more identical or different substituent selected from the group consisting of OC₁-C₄alkyl, COOH, COOC₁-C₂alkyl, SO₃H, NH₂, CN, halogen and OH, and R₁₇ is unsubstituted linear or branched C₁-C₆alkyl or linear or branched C₁-C₆alkyl, which is substituted by one or more identical or different substituent selected from the group consisting of OC₁-C₄alkyl, COOH, COOC₁-C₂alkyl, SO₃H, NH₂, CN, halogen and OH.

16. A method according to any one of claims 1 to 14, wherein R is the radical of unsubstituted aniline; the radical of unsubstituted aminonaphthalene; the radical of aniline or aminonaphthalene, wherein the phenyl or the naphthyl ring is substituted by one or more identical or different substituent selected from the group consisting of COOH, SO₃H, CN, halogen, SO₂C₁-C₂alkyl, unsubstituted linear or branched C₁-C₄alkyl, linear or branched C₁-C₄alkyl, substituted by OH, carboxy, COC₁-C₂alkyl or SO₂-N(C₁-C₄alkyl)-(CH₂)₁₋₄SO₃H and wherein the amino radical is substituted by H, unsubstituted linear or branched C₁-C₄alkyl or linear or branched C₁-C₄alkyl, substituted by OH or carboxy.

17. A method according to any one of claims 1 to 16, wherein T is a linear or branched unsubstituted C₁-C₆alkyl or linear or branched C₁-C₆alkyl, which is substituted by one or more identical or different substituent selected from the group consisting of OC₁-C₄alkyl, COOH, COOC₁-C₂alkyl, SO₃H, NH₂, NH(C₁-C₂alkyl), N(C₁-C₂alkyl)₂, CN, halogen and OH.

18. A method according to any one of claims 1 to 16, wherein T is unsubstituted phenyl; unsubstituted naphthyl; phenyl or naphthyl, which are substituted by one or more identical or different substituents selected from the group consisting of OC₁-C₄alkyl, COOH, COOC₁-C₂alkyl, SO₃H, NH₂, NH(C₁-C₂alkyl), N(C₁-C₂alkyl)₂, CN, halogen and OH.

19. A method according to any one of the preceding claims, which comprises applying to the material being coloured, in any desired order successively, or simultaneously,
a) at least one capped diazonium of formula (1)



and/or at least one capped diazonium

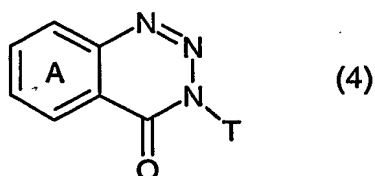
of formula (2)



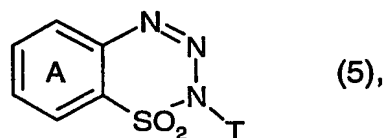
and/or at least one capped diazonium of formula (3)



and/or at least one capped diazonium of formula (4)



and/or at least one capped diazonium of formula (5)



wherein

Q is an unsubstituted phenyl; naphthyl; thiophenyl; 1,3-thiazolyl; 1,2-thiazolyl; 1,3-benzothiazolyl; 2,3-benzothiazolyl; imidazolyl; 1,3,4-thiadiazolyl; 1,3,5-thiadiazolyl; 1,3,4-triazolyl; pyrazolyl; benzimidazolyl, benzopyrazolyl, pyridinyl, quinolinyl, pyrimidinyl and isoxazolyl, aminodiphenyl, aminodiphenylether and azobenzenyl, which can optionally be mono- or poly-substituted by C₁-C₄alkyl, C₁-C₄alkoxy, C₁-C₄alkylthio, halogen, e.g. fluorine, bromine or chlorine, nitro, trifluoromethyl, CN, SCN, C₁-C₄alkylsulfonyl, phenylsulfonyl, benzylsulfonyl, di-C₁-C₄alkylaminosulfonyl, C₁-C₄alkyl-carbonylamino, C₁-C₄alkoxysulfonyl or by di-(hydroxy-C₁-C₄alkyl)-aminosulfonyl,

R signifies a the radical of formula -NR₁₆R₁₇, wherein R₁₆ is H; unsubstituted linear or branched C₁-C₆alkyl or linear or branched C₁-C₆alkyl, which is substituted by one or more identical or different substituent selected from the group consisting of OC₁-C₄alkyl, COOH, COOC₁-C₂alkyl, SO₃H, NH₂, CN, halogen and OH, and R₁₇ is unsubstituted linear or branched C₁-C₆alkyl or linear or branched C₁-C₆alkyl, which is substituted by one or more identical or different substituent selected from the group consisting of OC₁-C₄alkyl, COOH, COOC₁-C₂alkyl, SO₃H, NH₂, CN, halogen and OH, or

R signifies the radical of unsubstituted aniline; the radical of unsubstituted aminonaphthalene; the radical of aniline or aminonaphthalene, wherein the phenyl or the

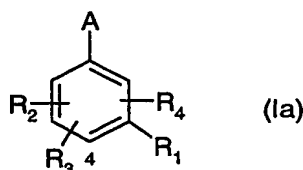
naphthyl ring is substituted by one or more identical or different substituent selected from the group consisting of COOH, SO₃H, CN, halogen, SO₂C₁-C₂alkyl, unsubstituted linear or branched C₁-C₄alkyl, linear or branched C₁-C₄alkyl, substituted by OH, carboxy, COC₁-C₂alkyl or SO₂-N(C₁-C₄alkyl)-(CH₂)₁₋₄SO₃H and wherein the amino radical is substituted by H; unsubstituted linear or branched C₁-C₄alkyl or linear or branched C₁-C₄alkyl, substituted by OH or carboxy, and

T is a linear or branched unsubstituted C₁-C₆alkyl or linear or branched C₁-C₆alkyl, which is substituted by one or more identical or different substituent selected from the group consisting of OC₁-C₄alkyl, COOH, COOC₁-C₂alkyl, SO₃H, NH₂, NH(C₁-C₂alkyl), N(C₁-C₂alkyl)₂, CN, halogen and OH, or

T is unsubstituted phenyl; unsubstituted naphthyl; phenyl or naphthyl, which are substituted by one or more identical or different substituents selected from the group consisting of OC₁-C₄alkyl, COOH, COOC₁-C₂alkyl, SO₃H, NH₂, NH(C₁-C₂alkyl), N(C₁-C₂alkyl)₂, CN, halogen and OH,

and

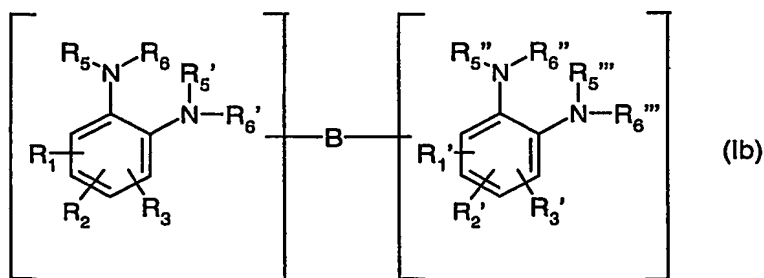
b) at least one cationic water-soluble aromatic coupling component of formula (Ia)



wherein

A, R₁, R₂, R₃ and R₄ have the same meanings as defined above,

and/or at least one cationic water-soluble aromatic coupling component of formula (Ib)



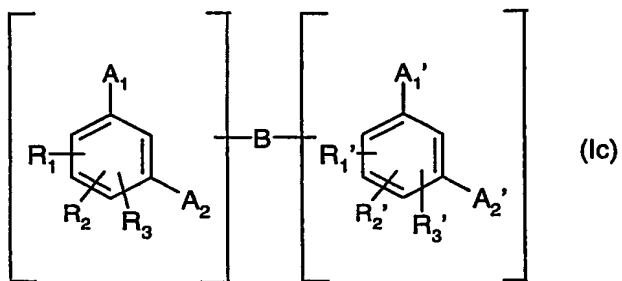
wherein

R₁ and R₁' are each one valency of B,

R₂, R₃, R₂' and R₃' have the meanings as defined for R₁ – R₄ in the definition of formula (I),

R₅, R₆, R₅', R₆', R₅'', R₆'', R₅''' and R₆'''' have the meanings as defined for R₅ and R₆ in the definition of formula (I), and

B and Z have the same meanings as defined in the definition of formula (I),
and/or at least one cationic water-soluble aromatic coupling component of formula (Ic)



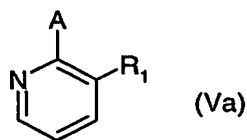
wherein

A_1 , A_2 , A_1' and A_2' signify independently of each other a hydroxy radical or a NR_5R_6 radical,
wherein R_5 and R_6 have the same meanings as defined in the definition of formula (I),

R_1 and R_1' are each one valency of B,

R_2 , R_3 , R_2' and R_3' have the meanings as defined for $R_1 - R_4$ in the definition of formula (I),
and

B and Z have the same meanings as defined in the definition of formula (I),
and/or at least one cationic water-soluble aromatic coupling component of formula (Va)

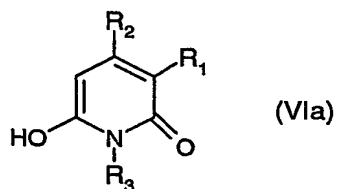


wherein

R_1 has the meanings as defined for $R_1 - R_4$ in the definition of formula (I) and

A has the meanings as defined for A in the definition of formula (I),

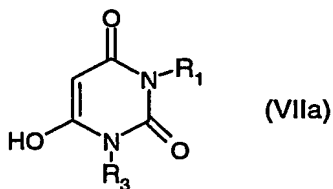
and/or at least one cationic water-soluble aromatic coupling component of formula (VIa)



wherein

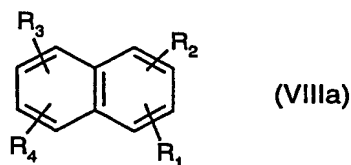
R_1 , R_2 and R_3 have the meanings as defined for $R_1 - R_4$ in the definition of formula (I), and/or
at least one cationic water-soluble aromatic coupling component of formula (VIIa)

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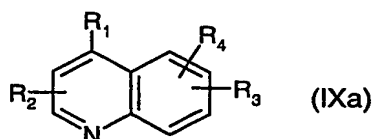
wherein

R_1 and R_3 have the meanings as defined for $R_1 - R_4$ in the definition of formula (I),
and/or at least one cationic water-soluble aromatic coupling component of formula (VIIIa)



wherein

R_1 , R_2 and R_3 have the meanings as defined for $R_1 - R_4$ in the definition of formula (I),
and/or at least one cationic water-soluble aromatic coupling component of formula (IXa)



wherein

R_1 , R_2 and R_3 have the meanings as defined for $R_1 - R_4$ in the definition of formula (I),
wherein the number of Z groups in the formula (Ia), (Ib), (Ic), (Va), (VIa), (VIIa), (VIIIa) and/or (IXa) is at least 1,
under conditions such that, initially, coupling does not take place, and then causing the capped diazonium compound present on the material to react with the coupling component.

20. A method according to Claim 19, which comprises applying to the material being coloured, in any desired order successively, or simultaneously,
a) at least one capped diazonium of formula (3)



wherein

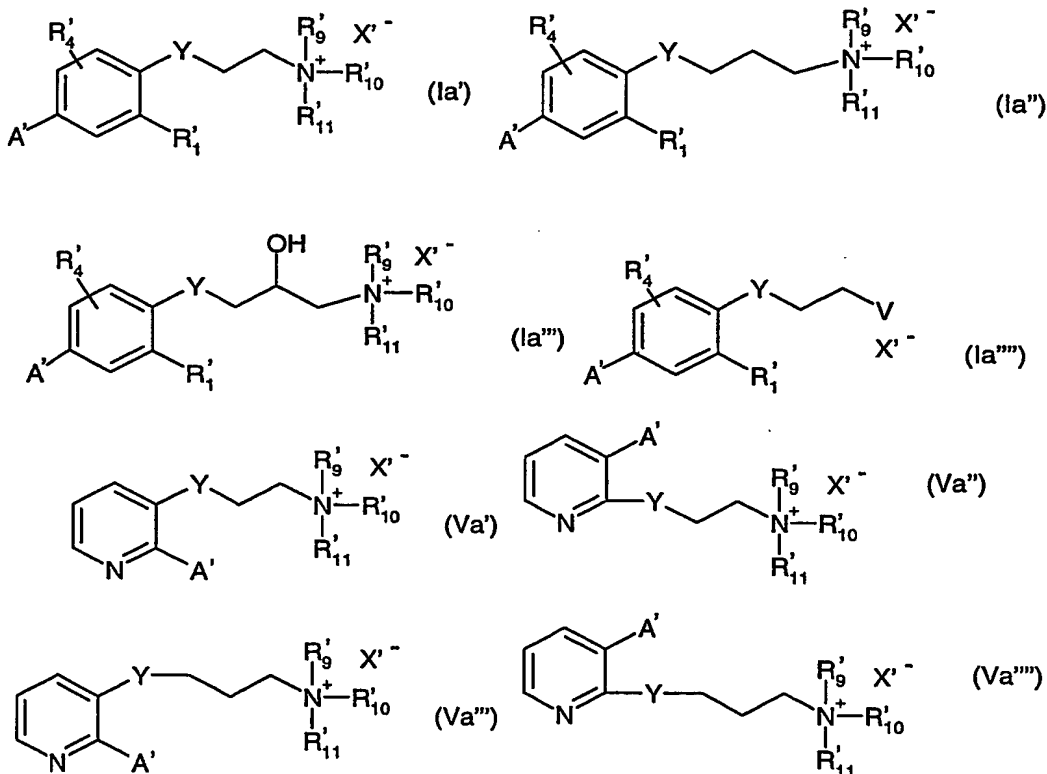
Q is an unsubstituted phenyl; naphthyl; thiophenyl; 1,3-thiazolyl; 1,2-thiazolyl; 1,3-benzothiazolyl; 2,3-benzothiazolyl; imidazolyl; 1,3,4-thiadiazolyl; 1,3,5-thiadiazolyl; 1,3,4-

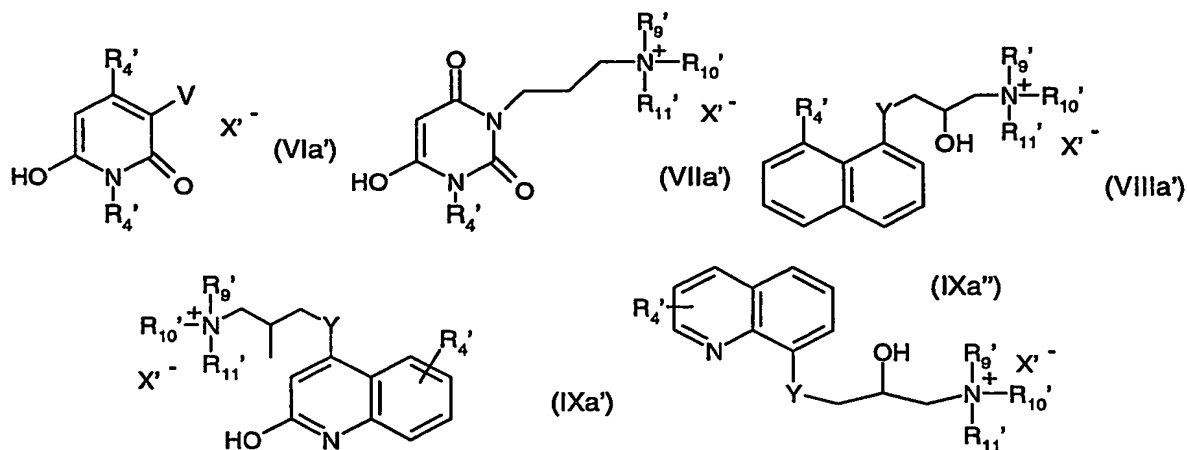
triazolyl; pyrazolyl benzimidazolyl, benzopyrazolyl, pyridinyl, quinolinyl, pyrimidinyl and isoxazolyl, aminodiphenyl, aminodiphenylether and azobenzenyl, which can optionally be mono- or poly-substituted by C₁-C₄alkyl, C₁-C₄alkoxy, C₁-C₄alkylthio, halogen, e.g. fluorine, bromine or chlorine, nitro, trifluoromethyl, CN, SCN, C₁-C₄alkylsulfonyl, phenylsulfonyl, benzylsulfonyl, di-C₁-C₄alkylaminosulfonyl, C₁-C₄alkyl-carbonylamino, C₁-C₄alkoxysulfonyl or by di-(hydroxy-C₁-C₄alkyl)-aminosulfonyl, and

R signifies a the radical of formula -NR₁₆R₁₇, wherein R₁₆ is H; unsubstituted linear or branched C₁-C₆alkyl or linear or branched C₁-C₆alkyl, which is substituted by one or more identical or different substituent selected from the group consisting of OC₁-C₄alkyl, COOH, COOC₁-C₂alkyl, SO₃H, NH₂, CN, halogen and OH, and R₁₇ is unsubstituted linear or branched C₁-C₆alkyl or linear or branched C₁-C₆alkyl, which is substituted by one or more identical or different substituent selected from the group consisting of OC₁-C₄alkyl, COOH, COOC₁-C₂alkyl, SO₃H, NH₂, CN, halogen and OH,

and

b) at least one cationic water-soluble aromatic coupling component of formula formulae (Ia'), (Ia''), (Ia'''), (Ia'''), (Va'), (Va''), (Va'''), (Va'''), (VIa'), (VIIa'), (VIIa''), (VIIIa'), (IXa') and/or (IXa'')





wherein

A' and R'₁ signify independently from each other H; OH; NH₂; NHC₁₋₄alkyl; N(C₁₋₄)₂alkyl; OC₁₋₄alkyl, wherein the two alkyl groups of the di-alkylated amine can be the same or different,

each R'₄ signifies independently from each other H; C₁₋₄alkyl, preferably CH₃; OC₁₋₄alkyl, preferably OCH₃ or halogen, preferably Cl; or a (CH₂)₀₋₂-C₆cycloalkyl or (CH₂)₀₋₂-phenyl, R'₉, R'₁₀, R'₁₁ signify independently from each other C₁₋₄alkyl, wherein the alkyl can be linear, branched and optionally substituted by OH, CN, Cl, COOH, SO₃H, NH₂, NHCH₃, N(CH₃)₂, OCH₃ or OC₂H₅,

X⁻ signify Cl⁻; Br⁻ or J⁻,

Y signifies -O-; -NH-; -N(C₁₋₂alkyl)-; -CONH-; -NHCO- -CON(C₁₋₄alkyl)-; -N(C₁₋₄alkyl)CO- or -CH₂-,

V signifies a 5, 6, or 7 membered heteroring

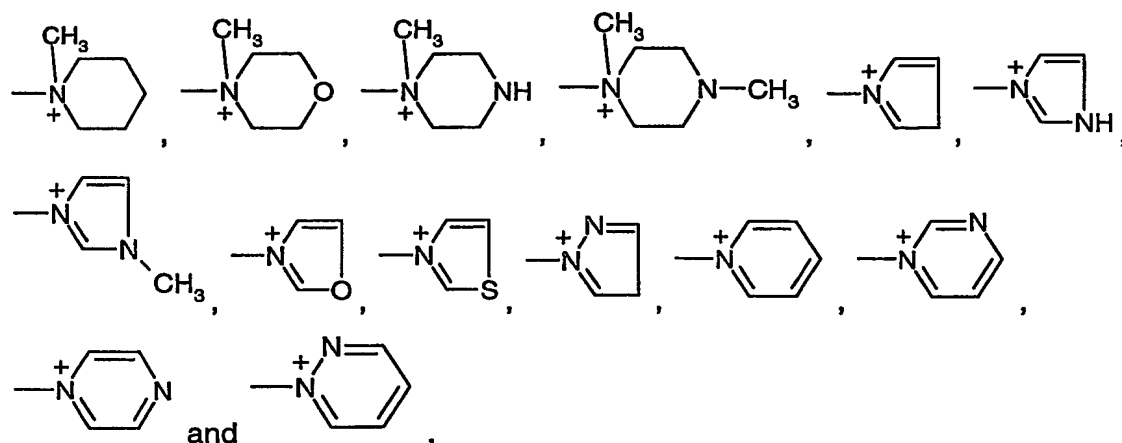
which can be aliphatic or aromatic, and

which contain at least one heteroatom selected from the group S, O and/or N,

and which contains a positive charge,

preferably V is a ring selected from the group consisting of

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under conditions such that, initially, coupling does not take place, and then causing the capped diazonium compound present on the material to react with the coupling component.

- 21.** A method of colouring porous material according to Claims 1 - 20, which comprises applying to the material being coloured, in any desired order successively, or simultaneously,
- at least two capped diazonium compounds as defined in Claims 12 - 18 and
 - at least one cationic water-soluble aromatic coupling component as defined in Claims 1 - 11,

under conditions such that, initially, coupling does not take place, and then causing the capped diazonium compound present on the material to react with the coupling component.

- 22.** A method of colouring porous material according to Claims 1 - 20, which comprises applying to the material being coloured, in any desired order successively, or simultaneously,
- at least one capped diazonium compound as defined in Claims 12 - 18 and
 - at least two cationic water-soluble aromatic coupling components as defined in Claims 1 - 11,

under conditions such that, initially, coupling does not take place, and then causing the capped diazonium compound present on the material to react with the coupling component.

- 23.** A method of colouring porous material according to Claims 1 - 20, which comprises applying to the material being coloured, in any desired order successively, or simultaneously,
- at least two capped diazonium compounds as defined in Claims 12 - 18 and
 - at least two cationic water-soluble aromatic coupling components as defined in Claims 1 - 11,

under conditions such that, initially, coupling does not take place, and then causing the capped diazonium compound present on the material to react with the coupling component.

24. A method according to anyone of the preceding claims, which comprises bringing the material being coloured into contact with

at least one capped diazonium compound of formula (1), (2), (3), (4) and/or (5) and

at least one water-soluble aromatic coupling component of formula (I); (Va), (Ia'), (Ia''), (Ia'''), (Ia'''), (Ib), (Ic), (Id) and/or (Ie),

in any desired order successively, or simultaneously,

(a) under alkaline conditions and optionally in the presence of a further dye, and then subjecting the material being coloured to treatment with acid, or

(b) under alkaline conditions, and

then subjecting the material being coloured to treatment with acid, optionally in the presence of a further dye.

24. A method according to anyone of the preceding claims, which comprises bringing the material being coloured into contact with

at least one capped diazonium compound of formula (1), (2), (3), (4) and/or (5) and

at least one water-soluble aromatic coupling component of formula (I), (Ia), (Ia'), (Ia''), (Ia'''), (Ia'''), (Ib), (Ic), (Va) (Va'), (Va''), (Va'''), (Va'''), (VIa), (VIa'), (VIIa), (VIIa'), (VIIa''), (VIIIa) (VIIIa'), (IXa) (IXa'), (IXa'') and/or (X)

in any desired order successively, or simultaneously,

a) under alkaline conditions in the presence of an oxidising agent and optionally in the presence of a further dye, and

then subjecting the material being coloured to treatment with acid, or

b) under alkaline conditions, and

then subjecting the material being coloured to treatment with acid, optionally in the presence of a further dye.

25. A colouring composition for carrying out the method according to any one of claims 1 to 24, comprising

a) at least one compound of formula (1), (2), (3), (4) and/or (5),

b) a medium for adjusting the pH,

c) water,

d) at least one cationic water-soluble aromatic coupling component of formula ((I), (Ia), (Ia'), (Ia''), (Ia'''), (Ia'''), (Ib), (Ic), (Va) (Va'), (Va''), (Va'''), (Va'''), (VIa), (VIa'), (VIIa), (VIIa'), (VIIa''), (VIIIa) (VIIIa'), (IXa) (IXa'), (IXa'') and/or (X)

and, optionally,

further additives.